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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,785	12/22/2000	Juerg Leuthold	4-1	1669
22046	7590	12/01/2004	EXAMINER PHAN, HANH	
LUCENT TECHNOLOGIES INC. DOCKET ADMINISTRATOR 101 CRAWFORDS CORNER ROAD - ROOM 3J-219 HOLMDEL, NJ 07733			ART UNIT 2633	PAPER NUMBER

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/745,785

Applicant(s)

LEUTHOLD ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Upon further consideration, claims 1, 7 and 8 are still read on the reference of Joyner et al (U.S. Patent No. 6,437,905). Therefore, the allowability of claims 1, 7 and 8 are withdrawn.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is meant by "generating....clock signal **from** at least **an input optical signal**" (emphasis added). As clearly illustrated in Figs. 1-3, both the input optical signal Pin and the clock signal Pclk are inputted and therefore, the clock signal Pclk is not generated from an input optical signal Pin. Clarification without introduction of new matter is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Joyner et al (US Patent 6,437,905).

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Joyner teaches a method of optical signal regeneration comprising the steps of:

generating a phase and amplitude encoded clock signal from at least an input optical signal (see col. 2, lines 26-28, Joyner teaches that the phase and gain of the copropagating CW signal  $P_{cw}$  is modulated by input signal  $P_{in}$  in the SOA. The  $P_{cw}$  signal corresponds to the claimed clock signal);

introducing the encoded clock signal into a delay interference section of the regenerator such that an amplitude modulated clock signal is produced (see figure 1 and col. 2, lines 33-37, Joyner teaches that the modulated signal  $P_{cw}$  is then sent to the delay interference section that comprises a delay interference loop and a phase shifter 150, Joyner's figure 1 looks the same as figure 3 of the invention); and

outputting the amplitude modulated clock signal wherein the output amplitude

modulated clock signal preserves information present within the input optical signal (the shape of Pconv preserves the shape of the input signal).

Regarding claim 7, as shown in Fig. 1 of Joyner, the input signal Pin is inputted into converter 100. Therefore, there must be a couple means for couple the input optical signal Pin to the input of element 100. As to the claimed modulation section, the SOA of Joyner has the function of modulating the refractive index. Therefore, the clock signal Pcw is applied to a modulation section.

Regarding claim 8, in order to receive light signal Pin, there must be a photodetector in the unit of Joyner in order to produce a photocurrent used to vary a voltage over the SOA which in turn changes a carrier density in the SOA resulting in a modulation of the refractive index.

### ***Allowable Subject Matter***

6. Claims 2-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the 112 rejection.

7. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 2-6, the prior art of record fails to teach the method of optical signal regeneration recited in claim 1 that wherein the delay interference comprises the steps of: splitting the encoded clock signal into at least two optical signals

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and delaying one of the encoded signals by an amount  $\Delta t$  from another signal wherein  $\Delta t \cong N \cdot \Delta t_{\text{clk}}$ , where  $\Delta t_{\text{clk}}$  is a clock pulse time delay measured between subsequent clock signal pulses and N is an integer.

### ***Response to Arguments***

8. Applicant's arguments filed 03/19/2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the reference fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "retiming", "3R", "2R", "cross-phase and cross-gain modulation") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Joyner et al's continuous wave signal Pcw is also used for modulating the input signal as in the claim. Therefore, the continuous wave signal Pcw is read on the clock signal as claimed.

Therefore, it is believed that the limitations of claims 1, 7 and 8 are still met by Joyner et al. and the rejection is maintained.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

A handwritten signature in cursive script, appearing to read 'Hanh Phan', is written over a horizontal line.

Hanh Phan

Primary examiner

11/02/2004